or *unguiformis* lives within the apertures of larger species of Gasteropods, as *Buccinum*, *Natica*, *Busycon*, and others. The shell of this *Crepidula* is absolutely white.

There are many species that undoubtedly receive protection in allowing foreign substances to grow upon their shells, and these species, oftentimes covered by a dense growth of calcareous or other algæ, are difficult of detection by the experienced collector.

There are also certain species that habitually accumulate foreign substances upon their shells. The little *Pisidium ferrugineum* possibly finds greater immunity from danger in its habit of accumulating a ferrugineous deposit on that portion of the shell most conspicuous. *Nucula delphinodonta* has likewise a similar habit. The delicate *Lyonsia arenosa*, with its habit of entangling particles of sand in its epidermal filaments, undoubtedly finds protection in this peculiarity.

It was not the intention to go outside of New England species in citing these examples, but in this connection I cannot forbear mentioning the tropical genus *Phorus*. The species are said to frequent rough bottoms, and to scramble over the ground, like the Strombs, and not to glide evenly. This peculiar manner of moving would render them very conspicuous, and it is curious to observe that most of the species attach foreign substances to the margins of their shells as they grow, so that when a shell has attained its growth, it is almost completely concealed by fragments of shells large and small, spines of Echini, bits of coral, and stones.

These few observations are offered (and they might be multiplied) with the belief that if there is any truth in the theory of protective colouring, as advanced by Wallace, the various colours of Mollusca in many cases can be explained, and the occurrence of varieties in colour are also accounted for by the same theory.

EDWARD S. MORSE

SCIENCE AT THE LONDON SCHOOL BOARD

PROF. J. J. SYLVESTER has issued his address as candidate for election to the London School Board for Marylebone in the room of Prof. Huxley. The importance of having at least one representative of Science on the Board induces us to print his Address in full. It must be obvious that many subjects will come before the Board wherein the opinion of a man of Prof. Sylvester's scientific training will be of the highest value; and we heartily wish the Board may be fortunate enough to obtain the additional strength which will be secured by his election.

"LADIES AND GENTLEMEN,—An influential body of ratepayers have appealed to me as a man of science, to offer my services on the London School Board.

"It has been represented to me, as the wish of your great constituency, that Prof. Huxley should be replaced by one who, like himself, has made the scientific part of education the chief business of his life. On this ground I have ventured to place myself in your hands.

"My University career at Cambridge, added to my experience both as Professor of Natural Philosophy at University College, London, and subsequently as Government Professor of Mathematics during a period of fifteen years at the Royal Military Academy at Woolwich (from which I have recently retired), have given me considerable knowledge of educational matters in England. My position as Corresponding Member of the Institute of France, as Corresponding Member of the Royal Academy of Science of Berlin, as Foreign Member of the Royal Academy of Science of Naples, and other learned corporations, gives me an early and accurate knowledge of what is passing in the chief intellectual centres of the Continent. I have ample leisure for the work that is to be done, not only in attending the ordinary meetings of the Board, but also the various sub-committees on which the general working of the Act devolves, as well as the divisional and district committees, on the efficiency of which the local benefit of that Act depends.

"If you send me to the London School Board, I shall be prepared, while looking forward to the gradual adoption of a National system of Education, to adhere to that wise and moderate compromise by which, without violation of principle, you may obtain the use of existing school machinery.

"I have the honour to be, Ladies and Gentlemen, your obedient servant,

"J. J. SYLVESTER, LL.D., F.R.S.
"Central Committee Room,
25, Great Quebec Street, Marylebone Road, W."

Dr. Sylvester has already received the promise of the support of the following scientific men:—Sir Chas. Wheatstone, D.C.L.; Prof. Sharpey (Sec. Royal Society); Prof. Busk, Pres. Royal Col. Surgeons; Phillip H. Calderon, R.A.; William Heywood, C.E.; E. H. Lawrence, F.S.A.; J. Norman Lockyer, F.R.S.; J. Gerstenberg, F.R.G.S.; J. Gwyn Jeffreys, F.R.S.; Nicholas Trübner, M.R.A.S.; Prof. T. Hewitt Key, F.R.S.; Dr. Wilson; David Forbes, F.R.S.; H. W. Bates, Sec. Royal Geog. Society; Henry Holiday; Henry Watts, F.R.S.; Dr. Pick; Thomas Woolner, A.R.A.; Professor Williamson, F.R.S.; Charles Brooke, F.R.S.; Sir Henry Thompson; Colonel Stuart Wortley; Dr. Forbes Winslow, F.R.S.; Joseph Durham, A.R.A.; C. Murchison, M.D., F.R.S.; Prof. Henry Charlton Bastian, F.R.S.; William Perkins; Noel Humphreys, F.S.A.; T. Spencer Cobbold, M.D., F.R.S.; A. W. Bennett, F.L.S.; Sir Julius Benedict; Prof. W. Warrington Smyth, F.R.S.; George Cruickshank; Prof. J. Percy, F.R.S.; George Harley, M.D., F.R.S.; Nevil S. Maskelyne, F.R.S.; W. S. Dallas, Sec. Geol. Soc.; Prof. G. C. Foster, F.R.S.; William Chaffers, F.S.A.; J. J. Stevenson, F.R.G.S.; and J. H. Pepper.

NOTES

WE congratulate the Science and Art Department on a resolution at which they have just arrived, in consequence of applications from science schools, to form collections of such specimens, models, diagrams, &c., as are best adapted for teaching the various branches of science which the Department aids by grants. It is proposed that collections shall be sent on loan for short periods to the local schools, to assist them in furnishing themselves with the necessary apparatus. The specimens and apparatus already in the Educational Department of the South Kensington Museum have been arranged for examination under the different subjects of instruction, and a letter has been forwarded to all the Examiners of the Department, requesting them to inspect the collections, with the view of advising what portion of them they consider may with advantage form part of the proposed travelling collections; what additions should be made, so as to give the science schools an idea of what they would require for a complete outfit; and what are the best and cheapest forms of apparatus, &c., for them to provide themselves with.

A FEW months ago we noticed the expedition to Moab which, by the aid of the British Association, was organised by Dr. Ginsburg and Dr. Tristram. We have now to announce the safe return of Dr. Ginsburg, and hope soon to be able to state some of the results of the expedition, which we have reason to believe are both numerous and interesting.

THE Society for the Encouragement of Arts, Manufactures, and Commerce is about to organise examinations in the science and technology of the various arts and manufactures of this country, which shall be conducted by a Board of Examiners, capable of testing the practical knowledge and skill required in the application of the scientific principles involved in each art or manufacture. We heartily commend this movement on the part of the Society of Arts, and may probably recur to the subject at some future time.

The Geologists' Association has made the following excursion arrangements for March and April:—Thursday, March 21, a visit to the Museum of Practical Geology, under the guidance of Prof. Morris. Tuesday, April 2, an excursion to Maidstone, under the direction of Mr. W. H. Bensted and Prof. Tennant. Upon arriving at Maidstone the party will visit the Charles Museum, and afterwards the fine sections of the Lower Greensand, exposed in the "Iguanodon Quarries." The Kentish Rag is here well seen *in situ*. Subsequently the party will proceed to Aylesford, crossing the Medway at Allington Lock, and the Gault, Lower Greensand, and Valley Deposits yielding Mammalian Remains, there exposed, will be inspected. Saturday, April 13, an excursion to Watford and Bushey, under the leadership of Mr. John Hopkinson. The special object of interest will be the sections of the Chalk, the Woolwich and Reading Series, and of the London Clay (Basement Bed). Saturday, April 27, excursion to Hampstead, directed by Mr. Caleb Evans and Mr. S. R. Pattison. The party will visit the shaft of the Midland Railway Tunnel, and afterwards proceed to Hampstead Heath to observe the sections of the Bagshot Sands here exposed, as well as the Physiography of the District. The Annual Report of the Association for 1871 furnishes satisfactory evidence of the prosperity and progress of this useful institution. We have from time to time given so full a report of its proceedings that we need not do more than congratulate the Society on its success.

The Board of Directors of the Edinburgh School of Art have appointed Dr. Robert Brown to the newly-created Lectureship on Geology and Palæontology, viewed more especially in the relation of the science to landscape painting, sculpture, architecture, and other fine arts and industries.

A lecture will be delivered for the Society of Telegraph Engineers at the Institution of Civil Engineers, 25, Great George Street, Westminster, on Wednesday, March 27, at 7.30 P.M., by Captain P. H. Colomb, R.N., on "Telegraphing at Sea."

A lecture will be delivered at the London Institution, Finsbury Circus, this evening (March 21) at 7.30 P.M., on "How Plants are Fertilised," by Mr. A. W. Bennett.

Messrs. Sampson Low and Co. have in the press Captain Butler's account of his connection with the Red River Expedition in 1869-70, and of his subsequent travels and adventures in the Manitoba country and across the Saskatchewan Valley as civil agent for the Government.

One of the best papers on local geology which we have recently come across was read by Mr. Thos. Beesley at the Annual Meeting of the Warwickshire Naturalists' and Archæologists' Field Club on March 5, "On the Geology of the neighbourhood of Banbury." Mr. Beesley gave a detailed account of the various strata represented in the neighbourhood, and the fossils found in them, and he ably sustained the view, in opposition to that held by Prof. Phillips, that the Inferior Oolite extends far into Oxfordshire.

The *Traveller*, which has now been in existence nearly a year, continues to contain excellent articles on travel and geographical research, of special interest to English and Americans.

We have received the seventh Annual Report of the Massachusetts Institute of Technology. It was established on the principle that all the studies and exercises of the first and second years should be pursued by the whole school. At the beginning of the third year, each student selects one of the following special courses of study:—1. A course in Mechanical Engineering; 2. Civil and Topographical Engineering; 3. Geology and Mining Engineering; 4. Building and Architecture; 5. Chemistry; 6. Science and Literature; 7. Natural History. These courses differ widely, but certain general studies are common to them all. It is intended to secure to every student, whatever his special course of study, a liberal mental development and general culture, as well as the more strictly technical education which may be his chief object. The course in Science and Literature, and the course in Natural History, differ from the others in having a less distinctly professional character. The former offers a sound education, based on the sciences and modern literature, and furnishes, with its wide range of elective studies, a suitable preparation for any of the departments of active life, or for teaching science. The course in Natural History affords an appropriate general training for those whose ulterior object is the special pursuit of Geology, Mineralogy, Botany, Zoology, or of Medicine, Pharmacy, or Rural Economy.

Since the days of its foundation, the Federal School at Zurich has, according to the *Mining Magazine and Review*, not only fulfilled its object, but has even surpassed the most well-founded hopes. In fact, each year the number of students has increased; the most distinguished professors have been happy to accept the offer of a chair in a college so flourishing; and it has already produced a number of distinguished pupils, whose reputation has placed it among the first establishments of the kind in Europe. The Swiss pupils are surpassed in number by students drawn from all the other nations of Europe, but chiefly from Russia, Poland, and Hungary, while there is a fair proportion both of Americans and Asiatics. All the cantons, however, are well represented, and the French and Italian cantons, in spite of the difference of tongue, send a very good contingent of their children. So many candidates presented themselves for admission in 1871, that it was not possible to accommodate them all; and this has again brought to the surface the idea of a Federal University, which will no doubt be speedily realised.

The *British Medical Journal* says that the people of Rome are very much interested just now in the fate of a poor fellow, Cipriani, who has swallowed a fork in public, prongs downwards, and who is now suffering, in consequence, agonies which are the subject of daily bulletin. Some comfort may be derived by his friends from the record lately published of Mr. Lund's patient at Manchester, who survived swallowing a dessert knife six inches long; and from the perusal of a recent article in the *Journal de Médecine et de Chirurgie*, in which instances are cited where the alimentary canal has safely supported the most unexpected foreign bodies—among others, lizards, a file, a tea-spoon, a bat; and, finally, from the whimsical but melancholy instance of a man who, to amuse himself, swallowed successfully and safely a five-franc piece, a closed pocket-knife, and a coffee-spoon, but killed himself at last in the vain effort to digest a pipe.

The *Medical Times and Gazette* of March 16 contains some interesting remarks on Prof. Laycock's Lecture on Ears delivered in Paris in 1862, a subject of special interest in connection with the recent Tichborne trial. The woodcuts with which the article is illustrated show the remarkable similarity between the square lobeless ear, met with in cases of dementia, and the ear of the chimpanzee.

During the last few days of December 1871, Adelaide, in South Australia, was visited, according to the *Gardener's Chronicle*, by dense clouds of locusts. Dr. Schomburgk describes the visitation as a very remarkable one. He says the air was quite darkened with them. They came from the north, and devoured everything looking green. Nothing remained of the fine lawns in the Botanic Garden but the bare brown earth.

A RICH instance of the mode in which the phenomena of nature present themselves to certain minds is furnished by the following extract from the *Prophetic News* for March 1872, published by G. J. Stevenson, 54, Paternoster Row :—" St. John in the Apocalypse has described his vision of the descent of 'the city of the New Jerusalem' into the air. . . . The Royal city may at first appear as a comet, which astronomers may be unable to understand, for its luminosity and stationary position in the eastern hemisphere may at first be but just discoverable. The news may then flash all over the globe by means of the telegraph. The unusual brilliancy of the aurora borealis seems a fitting harbinger, together with the spots *which appear* in the sun, of the approaching climax (Luke xxi. 25, 26), for through the prophetical telescope alone can we realise the intention of these wonderful phenomena. I shall be glad if some of your correspondents who may have given their thought to these points would avail themselves of the *Prophetic News* to help others to a better understanding of so important a subject."

IN the last year there was exported from Nicaragua 100 dols. worth of the waters of Nejapa, reported to have the virtue of curing drunkenness. This may be recommended to the Liquor League as better than a Maine Liquor Law. In the neighbouring State of Columbia, it is asserted by natives and Europeans, that there is an Indian cure for drunkenness.

ON the 16th of January two slight shocks of earthquake were felt at Valparaiso at 10·20 P.M. The weather was intensely cold.

ON the night of the 10th of January several shocks of earthquake were felt in Arequipa, in Peru, but no damage was done. It was observed they occurred a few hours after the new moon, and coincided with one of the highest tides of the year.

ON the 31st of January a severe shock of earthquake was felt at Patna, in Bengal.

IN the month of January there were frequent shocks of earthquake at Broossa, in Asia Minor.

ON Jan. 14 and 15 three shocks of earthquake were felt in the English hill-town of Darjeeling, in the Himalayas.

A SLIGHT shock of earthquake was felt in the middle of October at Memeodsbad, in the Ahmedabad Collectorate, Bombay Presidency.

ON the 23rd Jan. there was an earthquake at Guayaquil, in Ecuador.

IN January the heaviest fall of snow known for years took place in the hills of the Deyrsh Dhoon.

LARGE deposits of coal have been discovered at Cobquecura, in the province of Itata, Chile.

FURTHER important mineral discoveries are officially reported from Bolivia, which are expected to produce great results. In the Chaco on the road from La Paz to Fungas silver ore has been found yielding 12,000 ounces per ton, or half silver. A hundred claims were at once taken up. On the Llisa and Condormanana hills, near San Andres de Mochaca, veins of gold have been found, as well as in Vilaquil, eighteen miles from La Paz, where ancient winnowing grounds have been recognised.

ACCORDING to a report made by the Rev. Father Wolf to the Government of Ecuador, there are extensive fossil remains of the Tertiary and Quaternary epoch on the coast of Manabi and near Punin. Besides the mastodon the fossil horse is found, showing that in pre-historic times such animals were found there, though they became extinct, and the present race was introduced by the Spaniards.

IN Bolivia has been discovered an ancient mine, known as the Narango, twelve miles S. of Antofogasta, in the Mejillones district, near the Pacific. The vein is reported as composed of ochre-coloured ore, backed by a stratum, 2½ in. thick, of copper studded with gold, and containing about 20 per cent. of this precious metal.

A CORRESPONDENT of the *Ceylon Times* draws attention to the circumstance that that island is, as he believes, on the eve of an important change of climate, depending on the great cycle of thirty or thirty-three years. The past thirty years have, he maintains, shown a complete contrast to the previous thirty years, with manifestly different effects on animal and vegetable life, from the much smaller amount of rain. The next cycle of thirty years will be, he thinks, above the average, wet.

A SUIT has lately taken place in the High Court of Madras respecting a two-mouthed cow, the value of which is estimated at 1,000*l.*, as large sums were made by exhibiting it. She had been seized by the sheriff, as is alleged, on wrongful distraint.

THE Ipecacuanha plants in the Neilgherries are flourishing. Two have blossomed, but have yielded no seed. Twelve plants in good condition were received at the Calcutta Botanic Gardens from England in August.

THE English Vice-Consul at Ciudad Bolivar, on the Orinoco River, Venezuela, reports that an old woman had applied an efficacious remedy for yellow fever and black vomit. It is the juice of the leaves of the vervain plant, which is obtained by bruising, and is taken in small doses three times a day. Injections of the same juice are also administered every two hours until the bowels are completely relieved of their contents. The medical men have adopted the remedy, and the number of fatal cases have been much reduced. The leaves of the female plant alone are used.

THE wild elephant which has lately destroyed fifty-six lives in the Central Provinces of India and committed such ravages, was shot on November 15 by two officers of the Government. The night before his death he killed ten persons.

A GOOD deal of attention has been excited among Egyptologists by the comparatively recent discovery in excavations made at Tanis, on the eastern or Pelusiac branch of the Nile, of a trilingual stone, somewhat of the character of the celebrated Rosetta stone, but much more perfect, and believed to be of about two hundred and fifty years' greater antiquity. This, which is now deposited in the Museum of Egyptian Antiquities at Cairo, is a perfect stela, about six feet high, two and a half feet broad, and one foot thick, the summit being arched.

PUCHMURREE or Pachmari, in the central provinces of India, is now to be marked on our maps as a town; this hill site having been successfully established as a sanitarium for English soldiers in 1870.

A SHOWER of stones is reported from Rosario, in December. A great tempest was felt, ending in a shower of stones from N.W. to S.W., and doing much damage. The shower lasted ten minutes, and the stones were abundant and large, weighing from a nut in size to a pigeon's egg. The corn fields have severely suffered. It is remarked the like occurrence had not been seen for many years, so it is to be inferred such a phenomenon is not unknown. As the Bernstadt colony was affected some European observations may be received.

TWO new discoveries of gold are announced, the one in the Transvaal district near Natal, where the gold is stated to exist in large quantities, and the other in Manitoba, in Canada.